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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,463	02/10/2004	Thomas Eyhorn	WAS 0618 PUS	1373
22045	7590	05/11/2006	EXAMINER	
BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			VO, HAI	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 05/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/775,463

Applicant(s)

EYHORN, THOMAS

Examiner

Hai Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0426, 0312.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. The examiner was aware that Applicant had decided to let the Patent Application go abandoned during the phone call made on restriction 04/04/2006. However, an Office Action is deemed necessary in view of the decision petition mailed on 10/06/2005. No further action is required by Applicant upon the receipt of the Office Action and the application will go abandoned in six months from the mailing date of this communication.

***Claim Objections***

2. Claims 1-15 are objected to because of the following informalities: a claim preferably begins with a term "a" in accordance with current US patent practice. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear the heat insulation material in dependent claims is the same as or different from a thermal insulation material as recited in claim 1.

Regarding claim 3, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 6-11, 14 and 15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pogorski et al (US 6,221,456). Pogorski discloses a heat insulation material for insulating pipes comprising an envelope surrounding a microporous heat insulating material based on silica gel (example 1, column 8, lines 20-25). The pipe reads on Applicant's underwater component. The envelope is a single film or a multilayer film made from polyethylene and being metallized (column 6, lines 40-45). The interior of the envelope is evacuated (example 1). Pogorski does not teach the envelope being a water-resistant material. However, since Pogorski is using polyethylene to form a casing for the heat insulation material as Applicant, it is the examiner's position that the envelope is inherently water resistant and has an elongation within the claimed range. It appears that the microporous material of Pogorski is made from silica aerogel. Therefore, it is not seen that the microporous material would not have a

density and thermal conductivity at 300 bar pressure as the same material is employed. Accordingly, Pogorski anticipates or strongly suggests the claimed subject matter.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pogorski et al (US 6,221,456) as applied to claim 1 above, and further in view of Tabor (US 5,478,867). Pogorski does not specifically disclose the use of a multilayer film comprising polyethylene/polyamide. Tabor, however, teaches a thermal insulating material comprising a microporous xerogel composition evacuated and encapsulated in a water-tight envelope which comprises polyethylene/polyamide (column 11, lines 10-25). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a water-tight envelope comprising polyethylene/polyamide because such multilayer envelope offers a highly desirable combination of durability, light weight and ease of processing while at the same time ensuring maintenance of the vacuum and seal against gas and water penetration (see Tabor, column 11, lines 20-26).
9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pogorski et al (US 6,221,456) as applied to claim 1 above, and further in view of Eyhorn et al (US 6,110,310). Pogorski does not specifically disclose the microporous material encased within a polymer sheath wherein the microporous material has a plurality of incisions therein. Eyhorn, however, teaches an evacuated thermal insulation material comprising the microporous material encased within a polymer sheath wherein the microporous material has a plurality of incisions therein (abstract).

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use an evacuated thermal insulation material comprising the microporous material encased within a polymer sheath wherein the microporous material has a plurality of incisions therein motivated by the desire to render the microporous material flexible and conformable to the pipe to be insulated.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pogorski et al (US 6,221,456) as applied to claim 1 above, and further in view of Kirk (US 3,625,896). Pogorski does not specifically disclose the use of pyrogenic silica in the microporous silica gel. Kirk, however, teaches a thermal insulation powder for a cryogenic evacuated insulation system comprising a silica gel and pyrogenic silica (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use pyrogenic silica in combination with silica gel motivated by the desire to improve thermal insulation properties of the microporous material.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

*Hai Vo*

**HAI VO  
PRIMARY EXAMINER**